

Co-operative Federation of Victoria Ltd

Co-operative Opportunities Project

Discussion Paper No. 2

Opportunities for Co-operatives in Electricity Industry Restructuring

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INTRODUCTION

The Victorian electricity industry is currently experiencing a massive restructuring. The break-up of the SEC monopoly and the creation of independent generating units and competing distribution companies has been undertaken by the Victorian Government with the aim of creating a competitive and efficient electricity industry.

Five distribution companies have been sold to private buyers, some of which are wholly controlled by foreign utilities. Five generation companies are also being privatised.

The restructuring process has been accompanied by a great deal of public uncertainty about its economic and social value. Many small consumers (households, small businesses and farmers) are uncertain about the promised benefits of competition. Some fear an eventual rise in prices as the privatised distribution companies seek to deliver returns to their investors. Many regret the sale of assets to foreign entities.

This paper suggests that the restructuring of the electricity industry provides potential benefits for consumers, but these potential benefits will not be realised if small consumers stand alone as independent purchasing agents. Through processes of aggregation of purchasing power, small consumers can take advantage of the new competitive environment.

The paper argues that *co-operatives are the ideal mechanism for aggregating the purchasing power of small consumers*. Existing co-operatives, which already provide benefits to members through a pooling of resources and enterprise, may facilitate the aggregation of their members' electricity purchases. Alternatively, new co-operatives may form to undertake this service in a variety of ways.

In some rural and remote areas, co-operatives may be established to provide an electricity generating capacity. In some environmentally conscious communities, co-operatives may be formed to further 'green energy' objectives.

In the United States of America, there are more than 1,000 electricity co-operatives, owned by twelve million consumer members. Their activities encompass the generation, distribution, and retailing of electricity.

The paper aims to stimulate interest in the co-operative option in the restructuring of Victoria's electricity industry. It is produced by the *Co-operative Opportunities Project* of the *Co-operative Federation of Victoria*, the peak body of Victorian co-operatives comprising diverse enterprises from child-care to agriculture to housing, finance and health care.

This paper is directed to co-operatives, community organisations, policy makers, and others who are interested in enhancing community ownership and consumer choice in the 1990s environment of devolution, deregulation and marketisation.

OUTLINE

The paper is organised as follows. The main features of Victoria's electricity industry restructuring are first described, and the factors shaping consumer choice in the new environment are explored. The nature of co-operative enterprise is then defined, and five business opportunities for co-operatives in the electricity industry are examined. Three existing electricity co-operatives in Victoria are noted, and the prospects for the further development of a co-operative sector in electricity are assessed. The paper concludes with suggestions about how individuals, communities and co-operatives might proceed in exploring the possibilities in their areas.

MAIN FEATURES OF THE RESTRUCTURED ELECTRICITY INDUSTRY

The Victorian electricity industry currently comprises four components:

- An independent state-owned company, the *Victorian Power Exchange*, which monitors and controls the wholesale electricity market and ensures the security of the supply system.
- A transmission grid company, *Power Net Victoria*, which owns, maintains and manages the high voltage grid. This company will remain state-owned.
- Five generation companies, *Loy Yang A*, *Yallourn W*, *Hazelwood*, *Exogen* and *Southern Hydro*.
- Five regionally based distribution companies, *CitiPower*, *United Energy*, *Solaris*, *Eastern Energy* and *PowerCor*, comprising former SECV distribution assets and eleven municipal electricity supply departments. These five companies are now privately owned, some by consortia involving Australian and foreign investor-owned utilities, others fully owned and controlled by foreign investor-owned utilities.

In addition, there are independent, licensed retail suppliers.

The rationale for the adoption of this structure has been the introduction of competition into the industry, so that providers of products and services may compete for customers. By the year 2000, all electricity consumers will have the opportunity to choose who provides their electricity services. This represents a dramatic change from the past, where all consumers were captive to a vertically integrated state monopoly.

A timetable for phasing-in choice for all consumers has been established. Electricity users who consume loads greater than 1000MWh per year are already able to shop around for their power needs. In July 1996, customers with more than 750MWh/Yr become contestable in this fashion. From July 1998, those with loads of 160MWh/Yr become contestable, and the remainder of consumers become contestable in December 2000.

This means that large businesses and institutions are currently able to shop around, and in the next few years, medium-sized businesses and institutions (schools, hospitals, churches) will be able to join them. Households, small businesses, and small community organisations will not be able to do so until the year 2000.

FACTORS SHAPING CONSUMER CHOICE

A competitive market requires many buyers and sellers who are free to trade with each other without restriction. Consumers must have the freedom to choose the products and services they require. In electricity supply, choice is constituted by the following variables:

Power quality - voltage fluctuation options.

Power source - traditional or 'green' sources.

Use times - high price times or low price times.

Reliability - firm or interruptible.

Methods of payment - payment options.

In the marketplace, choice is dependent upon two factors, *information* and *purchasing power*.

Information asymmetries between sellers and buyers of electricity are an impediment to effective choice. In theory, consumers have an opportunity to acquire or purchase information and then act on the basis of this information, but high transaction costs may make it not feasible for small consumers. Acquisition of information to make a choice is therefore dependent upon power in the marketplace.

Choice is also dependent upon *purchasing power*. The greater the load purchased, the greater the bargaining power of buyers; the lesser the load purchased, the greater the bargaining power of sellers. For small consumers, the transactions costs in shopping between suppliers may be too high.

These dynamics have been recognised by the Victorian Government. Even the most optimistic government claims about the price benefits for small consumers in choosing between suppliers suggest that small consumers will be able to save 0.55 cents/KWh. On an average domestic consumption of 1020 KWhs, that amounts to a total of \$5.10 per year. Large consumers of electricity, on the other hand, will be able to derive considerable savings.

For small consumers, the electricity distribution companies will therefore exercise a de facto monopoly on supply in their service areas unless small consumers exercise a countervailing power.

The only way such countervailing power can be constituted is through the aggregation of purchasing to increase the bargaining power of small consumers relative to large consumers.

The principal historical means whereby individual consumers have empowered themselves in this way is through co-operatives. The essence of co-operative enterprise is the pooling of economic resources to obtain benefits for members.

WHAT IS A CO-OPERATIVE?

A co-operative is an incorporated enterprise that is owned and controlled by its members for the purpose of providing mutual benefits. By forming a co-operative, members aim to derive benefits which they could not achieve effectively by acting individually.

In forming a co-operative, members agree to make use of its services and contribute capital to fund the enterprise, usually by purchasing shares. Funds are contributed not for capital gain but for service or trading benefits. Members may receive dividends on capital contributed, but these are secondary to the benefits derived.

In this sense, a co-operative is a self-help organisation. **It is not a charity.** It is an enterprise which operates within a market economy with the aim of integrating social and economic objectives through the provision of mutual benefits. Co-operatives are a product of our market economy, often established in response to market failures or imbalances. They are not an alternative to a market economy.

Membership is voluntary, and is usually based upon a specific group of persons who have a unifying interest. This may be a common residential community or locality, or a common interest as consumers, suppliers, producers, tenants or workers.

Ownership and democratic control of a co-operative is vested in the membership, which may comprise individuals and/or other corporate entities (co-operatives, companies or associations). Democratic control means the final authority to control the affairs of the co-operative rests with the members who use it. Every member has one vote only, irrespective of the capital contributed or the use of the co-operative by them.

Democratic control is exercised by members electing a board of directors charged with management of the co-operative, by approval of the rules by which the co-operative operates, and by the passing of resolutions at general meetings.

A co-operative may raise capital from its membership and from sources external to the membership, offering fair market rate returns. However, control of the co-operative is exercised solely by the membership and is unrelated to the source or level of capital.

HOW A CO-OPERATIVE AND INVESTOR OWNED ENTERPRISE DIFFER

As a member-owned enterprise, a co-operative differs from an investor-owned enterprise in four respects:

1. The prime objective of a co-operative is to provide *mutual benefits* to its members. An investor-owned enterprise exists to maximise the return on the capital invested in the business.
2. In a co-operative each member has *one vote only*. In an investor-owned enterprise voting and control is related to the number of shares held.
3. The *profits* of a co-operative are either distributed to members in proportion to use of its services, or retained in the co-operative and not distributed. Profits in an investor-owned enterprise are usually distributed as a return on capital invested.
4. In a member-owned enterprise *ownership* is based in a group of people with a unifying interest and tied to long-term objectives. In an investor-owned enterprise ownership can be traded and capital is footloose.

Co-operatives may be for-profit or not-for-profit, though all must operate on a profitable basis. They may be community-based, customer-based, employee-based, tenant-based or producer-based.

CO-OPERATIVES IN VICTORIA

Co-operatives have served generations of Victorians for over 100 years, in fact a number formed early this century still exist today. The Victorian *Co-operation Act 1981* provides for a range of co-operatives, and governs the current operation of over 1000 enterprises in agriculture, transport, energy, water, retailing, marketing, health, housing, child care, broadcasting, culture and community services. Some specific forms of co-operative activity are governed by specific Acts (friendly societies, co-operative housing, credit unions and building societies), but in general terms, there are no bounds to the activities and services which may be provided through a co-operative enterprise.

The diversity of co-operative enterprises is the product of a flexible form of organisation that is held together by a common sense of tradition and commitment to democracy and service, rather than by a rigid set of prescriptive rules or practices.

FIVE BUSINESS OPPORTUNITIES FOR CO-OPERATIVES

There are five distinct business opportunities for co-operatives in the restructured Victorian electricity industry.

New or existing co-operatives retailing electricity

This option would involve co-operatives entering arrangements with suppliers for power services to their members. The development of telephone discount purchasing schemes provides a useful model of how such aggregation works. By aggregating many small consumers, authorised retailers can offer discounts on local, interstate and international telephone calls. To benefit, consumers must pay their bills by the due date. The retailers can also offer a range of discounted telecommunications services.

Co-operatives that wish to retail electricity in this way must acquire a retail licence from the Regulator-General, Victoria. A smart meter, such as the CAMRI, would enable efficient recordings of electricity usage to occur. Work being undertaken by the Victorian Government on modelling and averaging in the preparation of consumer profiles could enable consumer choice without a smart meter.

New or existing co-operatives purchasing electricity

Individuals and communities in particular localities may establish co-operatives to purchase electricity and associated services for their members. A purchasing co-operative would be able to negotiate with retailers, distribution companies and generation units for the supply of power to their members. The installation of smart meters could form part of contract arrangements with the supplier. A retail licence would not be required.

It is estimated that the viability of a purchasing co-operative depends upon a threshold membership of 2000, with viability increasing with increased membership.

Generation co-operatives

Communities in rural and remote areas may establish a co-operative to generate electricity, either by arrangement with a distribution company or in competition with them. The establishment of small power plants of up to 10MW may be feasible in remote and rural communities, where service quality from the distribution companies may not be adequate.

A strong degree of community identification with and participation in such a co-operative project would provide the basis for viability.

Promoting energy efficiency and 'green energy'

Existing co-operatives or newly-formed electricity purchasing and generating co-operatives may promote energy savings and energy conservation. With consumers eventually having to pay the full cost of their electricity, there will be a steady increase in consumer interest in using energy more efficiently.

This may involve retailing or purchasing packages of energy efficient equipment and load shifting from high price times to low price times. It may also involve retailing or purchasing packages with 'green premium' pricing mechanisms to favour renewable energy sources.

Purchasing a part or full share in a distribution company

Existing co-operatives and purchasing and generating co-operatives may, at some point in the future, establish strategic alliances which may enable the purchase of a part or full share in an entity holding a distribution license. In the United States, there are currently some 30 electricity co-operatives in various stages of acquiring private utilities.

ELECTRICITY CO-OPERATIVES IN VICTORIA

There are currently three electricity co-operatives in Victoria.

Orbost Power Co-operative Ltd

Established in 1992, this co-operative is seeking to establish a generating capacity in the remote East Gippsland community of Orbost.

Southern Energy Co-operative Ltd

Established in 1995, this co-operative is attempting to aggregate consumers in the Mornington Peninsula and southern suburbs of Melbourne (the franchise area of United Energy) to purchase electricity for member households and small businesses after December 2000.

Co-operative Energy Ltd

Established in 1994, this co-operative is exploring services and facilities that might enhance the viability of electricity co-operatives in Victoria. It also seeks to promote the co-operative option for electricity consumers. Co-operative Energy Ltd is an associate member of the National Rural Electric Co-operative Association in the United States.

FUTURE PROSPECTS

The future development of co-operative participation in the electricity industry is dependent upon the following factors:

Customer loyalty

There is a residue of customer loyalty to the state-owned SECV, and much of the current resistance to privatisation has been based on this loyalty. The gradual privatisation of the electricity industry will eventually eliminate this loyalty. At the same time, the new distribution companies will not find it easy to win customer loyalty. It will be up to all new players, including co-operatives, to earn and retain customer loyalty.

Switching costs

If there is a substantial cost to consumers in switching suppliers, this will be an effective barrier to the competitive success of electricity co-operatives. This will have the effect of forcing consumers to remain with their existing supplier. Continuing advances in usage recording technology will, however, steadily diminish this barrier.

Price signals

Once price controls are finally phased out in the year 2000, consumers will be required to pay the real costs of their electricity. Consumers will therefore become more sensitive to pricing signals and more inclined to alter behaviour.

Capital costs

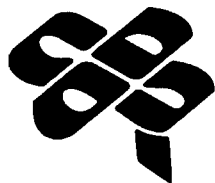
The capital costs in becoming and remaining competitive are critical to the viability of an electricity co-operative. These costs are threefold: initial and set-up costs, operating costs until a viable market share is secured, and the costs imposed by competitor pricing strategies. If a competitor has significant liquidity reserves, it can reduce its margins to drive its competitors out of the industry. Strategic alliances and the utilisation of existing co-operative and community infrastructure can assist the limitation of capital costs.

Political barriers

A political framework is established by legislation, regulation and public debate involving industry players and interest groups. This framework can either hinder or facilitate the development of electricity co-operatives.

Customer mix

The larger the sales volume, the lower the cost per GWh and the higher the proportion of sales to industrial and commercial customers, the lower the unit cost. It has been estimated, for instance, that average operating costs per customer in urban areas reduce 1.3 cents for every increase of 10 customers.



Co-operative Federation of Victoria Ltd

RMB 1282 Langs Road, Blampied, Victoria 3364

Telephone: (03) 5345 7466 Fax: (03) 53483253

Email: coopvic@netconnect.com.au

CO-OP POWER

Discussion Paper No 2
Co-operative Opportunities Project
Project Co-ordinator: Vern Hughes
Electric Industry Restructuring

Introduction

This paper aims to stimulate interest in the co-operative option in Victoria's energy industry with a focus on changes to the electric industry. The restructuring of the industry is creating opportunities for consumers to aggregate their purchasing power through co-operatives and, therefore, benefit from the new competitive market.

The Co-operatives Act 1996 provides for a range of co-operatives and governs the current operation of over 1000 enterprises in agriculture, child care, energy, housing, broadcasting, marketing, health, community services, retailing and water. The diversity of co-operative enterprise is the outcome of a flexible form of organisation that is held together by a common sense of tradition and commitment to democracy and service.

For over 100 years co-operatives have enabled small consumers and producers to achieve bargaining power e.g. farmers, households, rural residents and small business.

Main Features of the Restructured Electric Industry

The restructured Victorian electric industry currently comprises five components:

- A wholesale National Electricity Market (NEM) which includes Victoria, New South Wales, the ACT, Queensland and South Australia. The Market is supervised by the **National Electricity Code Administrator**. The NEM replaces in Victoria an independent state-owned company, the **Victorian Power Exchange**, which monitored and controlled the wholesale electricity market and ensures the security of supply system.
- A privately-owned monopoly transmission grid company, **GPU PowerNet**, which owns, maintains and manages the high voltage grid.
- Nine competing generation companies - **Edison Mission Energy, Energy Brix, Generation Victoria, Hazelwood Power Corporation Pty Ltd, Hazelwood Power Partnership, Loy Yang Power, Southern Hydro Pty Ltd, Visy Paper Pty Ltd and Yallourn Energy Pty Ltd**.
- Five regionally based and privately-owned monopoly distribution companies - **Cliffpower Ltd, Eastern Energy Ltd, Powercor Australia Ltd, Solaris Power Ltd and United Energy Ltd** - comprising former SECV distribution networks and 11 municipal electricity supply departments.
- Twenty one licensed competing retail suppliers - in addition to the retail arms of Victoria's distribution companies, there are 16 other retailers, **ACTEW Energy Limited, Boral Energy (VIC) Pty Ltd, Energy Australia, QTSC (trading as ERGON Energy), ETSA Power Corporation (Victoria) Pty Ltd, Great Southern Energy Victoria Pty Ltd, Integral Energy Victoria Ltd, NorthPower Energy Services Pty Limited, Yallourn Energy Pty Ltd, Kinetik Energy, Advance Energy, Energy 21, Ikon Energy, Optima Energy, RMB Australia Limited and Southern Electricity Retail Corporation Pty Ltd (trading as ENERGEX)**.

The rationale for the adoption of this structure has been to introduce competition into the industry, so that generators and retailers compete for customers. It is assumed that competition between suppliers will drive down generation and retail prices and improve services.

By the year 2001, all electricity consumers will have the opportunity to choose who provides their electricity services. Once a consumer is deemed contestable they can shop around for their electricity supply. This represents a dramatic change from the past, where most consumers were captive to the SECV – a vertically integrated state monopoly. Whether this opportunity will become a reality for individual small consumers depends on co-operatives.

A timetable for phasing-in choice for all consumers has been established:

- **December 1994** Customers with demand above 5MW (e.g. BHP)
- **July 1995** Customers with demand above 1MW (e.g. large manufacturers/office buildings).
- **July 1996** Customers with consumption above 750MWh/year (e.g. medium sized factories, large supermarkets)
- **July 1998** Customers with consumption above 160MWh/year (e.g. single storey offices and fast food restaurants)
- **January 2001** All remaining customers.

Individual consumers are not allowed to aggregate their loads to achieve contestability until they are themselves contestable.

Factors Shaping Consumer Choice

A competitive electricity market requires many buyers and sellers who are free to trade with each other without restriction. Consumers must have the freedom to choose the products and services they require. In electricity supply, this choice will be based on the following variables:

- Power quality - voltage fluctuation options.
- Power source - traditional or green sources.
- Use times - high price times or low price times.
- Reliability - firm or interruptible
- Methods of payment - payment options

In the marketplace, choice is dependent on two factors - information and purchasing power. Information asymmetries between sellers and buyers of electricity are an impediment to effective choice. In theory, consumers have an opportunity to acquire or purchase information and then act on the basis of this information. Choice is dependent upon purchasing power i.e. how much electricity is used and purchased annually. The greater the electricity consumed, the greater the bargaining power of buyers. For individual small consumers, the transaction costs in shopping between suppliers may be too high. Large consumers of electricity have been able to derive considerable savings and in allowing these consumers to have choice before small consumers the government has created a first move advantage. Large consumers will wish to protect the savings achieved by being the first to be allowed to shop around - limiting the savings achievable by small consumers when they become contestable. Allowing small consumers to aggregate their loads would assist in counteracting this advantage.

For small individual consumers their electricity distribution companies will exercise a de facto monopoly on supply in their service areas unless individual small consumers exercise a countervailing power.

Co-operative Option

The only way countervailing bargaining power can be exercised by individual small consumers is through aggregating their purchasing power. The principal historical means whereby individual consumers have empowered themselves in this way is through co-operatives. The essence of co-operative enterprise is the pooling of the individual economic resources to obtain benefits for members.

A co-operative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity. In the tradition of their founders, co-operative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

1. **Voluntary and Open Membership.** Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.
 2. **Democratic Member Control.** Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives, members have equal voting rights (one member, one vote) and cooperatives at other levels are organized in a democratic manner.
 3. **Member Economic Participation.** Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. They usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing the cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.
 4. **Autonomy and Independence.** Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.
 5. **Education, Training and Information.** Cooperatives provide education and training for their members, elected representa-
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tives, managers and employees so they can contribute effectively to the development of their cooperatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of cooperation.

6. Cooperation among Cooperatives. Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.

7. Concern for Community. While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.

In forming a co-operative, members agree to make use of its services and contribute capital to fund the enterprise, usually by purchasing shares. Funds are contributed not for capital gain but for service or trading benefits. Members may receive dividends on capital contributed, but these are secondary to the benefits derived. In this sense, a co-operative is a self-help organisation. It is an enterprise which operates within a market economy with the aim of integrating social and economic objectives through the provision of mutual benefits. Co-operatives are a product of our market economy, often established in response to market or government failures or imbalances. They are not an alternative to the market economy.

Membership is voluntary, and is usually based upon a specific group of persons who have a unifying interest e.g. cheaper electricity and a better electric service. Ownership and democratic control of a co-operative is vested in the membership, which may comprise individuals and/or other corporate entities (co-operatives, companies or associations). Democratic control means the final authority to control the affairs of the co-operative rests with the members who use it. Every member has one vote only, irrespective of the capital contributed or the use of the co-operative by them. Democratic control is exercised by members electing a board of directors with management of the co-operative, by approval of the rules by which the co-operative operates, and by the passing of resolutions at general meetings.

Co-operative Members and Company Investors

As a member-owned enterprise, a co-operative differs from an investor-owned enterprise in four respects:

- The prime objective of a co-operative is to provide mutual benefits to its members. An investor-owned enterprise exists to maximise the return on the capital invested in the business.
- In a co-operative each member has one vote only. In an investor-owned enterprise voting and control is related to the number of shares held.
- The profits of a co-operative are either distributed to members in proportion to use of its services, or retained in the co-operative and not distributed. Profits in an investor-owned enterprise are usually distributed as a return on capital invested.
- In a member-owned enterprise ownership is based in a group of people with a unifying interest and tied to long-term objectives. In an investor-owned enterprise ownership can be traded and capital is footloose.

Five Business Opportunities

There are five distinct business opportunities for co-operatives in the restructured Victorian electricity industry.

New or existing co-operatives retailing electricity.

Co-operatives that wished to retail electricity would have to acquire a retail licence from the Office of the Regulator-General, Victoria. There are already 21 investor-owned retailers operating in Victoria.

New or existing co-operative purchasing groups

Individuals and communities in particular localities may establish co-operatives to purchase electricity and associated services for their members. A purchasing co-operative would be able to negotiate with retailers, distribution companies for the supply of power to their members. A co-operative could also form a purchasing group for members and non-members.

The Norco Energy Co-operative Feasibility Study was funded by the NSW Sustainable Energy Development Authority and the NSW Department of Fair Trading to assess whether energy purchasing co-ops could reduce household electricity bills. The study confirms that energy co-operatives offer significant benefits to small consumers – estimating that a co-operative with 1,000 to 5,000 members could be viable and reduce electricity bills by 20 to 30%. The savings estimates are based on what has already been achieved by big business negotiating electricity supply contracts.

The study was based on actual energy usage of the Norco dairy co-operative in New South Wales, samples of 287 electricity accounts and 113 questionnaires returned by dairy farmer members of Norco, the Lismore City Council and Southern Cross University and 16,000 households in the Lismore area.

The Study has also concluded that the typical household could further reduce annual energy consumption by 45% through energy efficient improvements such as water efficient shower-heads, electric-boosted solar water heating and insulation to ceiling/roof and some exterior walls. It suggests that energy efficient buildings and appliances will reduce peak demand and, therefore, the cost of electricity.

The Victorian co-operatives Co-operative Energy Ltd and Southern Energy Co-operative Ltd are focussed on the purchasing option. Co-operative Energy Ltd has established the Co-opEnergy Purchasing Group and is working with a group of aged care services who became contestable from July 1998 i.e. they can choose their retail supplier.

Generation Co-operatives

Communities in rural and remote areas may establish a co-operative to generate electricity. The establishment of small power plants of up to 10MW may be feasible in remote rural communities where service quality from the distribution and retail companies may not be adequate and power loss increases with the length of lines from the points of generation and consumption. This option is commonly referred to as dispersed generation - establishing small power plants in load areas. Dispersed generation could also provide a basis for renewable energy options.

Energy efficiency and green energy

Existing co-operatives or newly-formed electric purchasing and generating co-operatives could promote energy savings and energy conservation. Investor-owned generation, distribution and retail companies have a vested interest in increasing energy consumption - rather than encouraging its conservation. This is the simplest way to increase their cash flow and improve their margins - particularly in retailing where margins are low. With consumers eventually having to pay the full cost of their electricity, there will be a steady increase in consumer interest in using energy more efficiently. Energy efficiency measures, however, vary in their cost and could require a capital expenditure that will not be available to most small consumers. This may involve retailing or packaging of energy efficient equipment and load shifting from high price times to low price times. It may also involve retailing or purchasing packages with green premium pricing mechanisms to favour renewable energy sources. Renewable energy, however, could be provided at a premium and price-out many small consumers.

Purchasing a part or full share in a distribution company

Existing and new co-operatives may, at some point in the future, establish strategic alliances which may enable the purchase of a part or full share in an entity holding a distribution license. For co-operative ownership to become control it would be necessary to purchase a majority of shares and this would be resisted by other investors. In the short-term, the distribution companies are monopolistic providers with a guaranteed cash flow and profits and are, therefore, attractive to investors. In the longer-term, dispersed and renewable generation could weaken this monopoly.

Energy Co-operatives in the USA

There are 934 electric co-operatives in the USA serving 31 million people - 11% of the nation's population.

The co-operatives are owned by the consumers they serve and are governed by boards of directors elected from the membership. The assets of these co-operatives exceeded \$USA 67 billion in 1996. The co-operatives own and maintain nearly half the electric distribution lines in the U.S.A. - covering three quarters of the nation's land mass.

Many electric co-operatives are also involved in community development e.g. small business development and job creation, improvement of water and sewer systems and assistance in the delivery of educational services and health care.

With the deregulation of the electric industry in the USA, new energy co-operatives are being formed. On 14 February 1997 the Washington Electric Co-operative, New Hampshire Electric Co-operative and 1st Rochdale of New York signed a partnership agreement with the Northeast-based Co-operative Development Institute to co-create energy co-operatives in the region. In November 1997 the California Electric Users Co-operative filed articles for incorporation in California. The new co-operative is composed of 11 agricultural co-operatives and plans to aggregate the energy purchasing power of its members.

Energy Co-operatives in Victoria

There are currently three energy co-operatives in Victoria:

- **Orbost Power Co-operative Ltd** was established in 1992. This co-operative was seeking to establish a generating capacity in the remote East Gippsland community of Orbost.
 - **Southern Energy Co-operative Ltd** was established in 1995. This co-operative is attempting to aggregate consumers in the Southern suburbs of Melbourne - the distribution area of United Energy - to purchase electricity for its members after January 2001. The co-operative has experienced difficulty in recruiting and retaining members. The co-operative is a member of Co-operative Energy Ltd and the Co-operative Federation of Victoria Ltd.
 - **Co-operative Energy Ltd** was established in 1994. This co-operative is exploring services and facilities that might enhance the viability of electric and energy co-operatives in Victoria. Co-operative Energy Ltd has established the Co-opEnergy Purchasing Group which has been joined by a small group of aged care services throughout Victoria. The co-operative is an international member of the USA National Rural Electric Co-operative Association and a member of the Co-operative Federation of Victoria Ltd.
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Development Factors

The future development of co-operative participation in the energy industry is dependent upon the following factors.

Customer Loyalty There is a residue of customer loyalty to the state-owned SECV, and much of the resistance to privatisation has been based on this loyalty. The new private distribution and retail companies will not find it easy to win customers loyalty - other than through default. It will be up to the new players, including co-operatives, to earn and retain customer loyalty. Of course, the companies will attempt to purchase loyalty. United Energy, for instance, on being listed on the Australian Stock Exchange in 1998 made a guaranteed share offer to its customers if they subscribed.

Switching Costs If there is a substantial cost to consumers in switching suppliers, this will be an effective barrier to the competitive success of co-operatives. The costs are primarily twofold - the time involved in collecting and comparing offers and the purchasing price of new smart meters. This will have the effect of forcing consumers to remain with their existing supplier. Continuing advances in usage recording technology will, however, steadily diminish this barrier. Another factor will be price signals with consumers increasingly required to pay the 'real' cost of their electricity. This will further diminish the switching barrier.

Price Signals Once price controls are finally phased out in 2001, consumers will be required to pay the real costs of their electricity. Consumers will therefore become more sensitive to pricing signals and more inclined to alter behaviour. This will depend, of course, on the elasticity of energy use and household income and expenditure.

Co-operative Trust This depends on public perception and acceptance of the co-operative option - whether or not individuals are members of co-operatives. It depends on how individuals perceive and accept the legitimacy of co-operative involvement in the energy industry. In the U.S.A., in February 1998 a survey reported that 73% of consumers now served by investor-owned utilities would prefer to be served by a utility that was locally owned and controlled e.g. co-operative and municipal utilities.

Capital Costs The capital cost in becoming and remaining competitive are critical to the viability of a co-operative - initial and set-up costs, operating costs until a viable market share is secured, and the costs imposed by competitor pricing strategies. If a competitor has significant liquidity reserves, it can reduce its margins to drive its competitors out of the industry. Strategic alliances and the utilisation of existing co-operative and community infrastructure can assist the limitation of capital costs.

Political Barriers A political framework is established by legislation, regulation and public debate involving industry players and interest groups. This framework can either hinder or facilitate the development of co-operative involvement. Public policy debate has tended to exclude the co-operative option generally and small consumers are being disadvantaged by the restraint on aggregation. In contrast, in the USA small consumers are allowed to aggregate their loads and not wait to achieve contestability.

Customer Mix The larger the sales volume, the lower the cost per GWh and the higher the proportion of sales to industrial and commercial customers, the lower the unit cost. It has been estimated, for instance, that average operating costs per customer in urban areas reduce 1.3 cents for every increase of 10 customers.

Strategic Alliances Existing co-operatives and electric co-operatives may advance their participation in the electricity industry through strategic alliances. Large membership organisations such as credit unions, friendly societies, trade unions, churches and large voluntary associations offer potentially very powerful consumer purchasing blocs. The basis of Co-operative Energy Ltd's Co-opEnergy Purchasing Group, for example, is aged care services. This "third sector", however, does not have an understanding of its similarities and the economic benefits of working together.

The Way Forward

The Co-operative Federation of Victoria Ltd in partnership with Co-operative Energy Ltd aims to encourage individuals, co-operatives, policy makers and communities to explore these options.

People Contacts

Vern Hughes
Project Co-ordinator,
Co-operative Opportunities Project
Co-operative Federation of Victoria Ltd
Telephone: 061 03 9326 8245

David Griffiths
Secretary
Co-operative Energy Ltd,
71 Franciscan Avenue, Frankston, Victoria 3199 Australia
Telephone: 061 03 97709916
Email: mdc@fox.net.au

Further Reading

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